

# A GREAT STEP FORWARD

*An amazing machine, which will affect every business house from this day. Read and you will understand*

**T**HE NEW COMPTOMETER—the 'All-Clear' Signal Controlled-Key Model—embodying all the finest practice in mechanical calculation, together with notable advances on anything hitherto achieved, inaugurates a new standard of efficiency in figure work. Absolute accuracy in addition,

subtraction, multiplication and division is ensured, while the direct economies in time and money are so great that the influence of the Comptometer in industry must increase to such an extent that it cannot be ignored. Already the Comptometer is extensively used by firms in every trade; it will be installed universally for commercial figure work as it becomes recognized that the old methods involve heavy drudgery, loss, and uncertainty, which cannot stand against modern conditions.

*WE HAVE hundreds of Testimonials from Comptometer users. The following and those on page 14 are all we have room for.*

The British Shoe Co. Ltd.,  
Northampton, write :—

We are pleased to bear testimony to the durability and absolute reliability of the Comptometer, and the two machines which we have bought from you have been, and are, of immense value to us.

One of the outstanding features of the Comptometer is the fact that any one can learn to use it in so short a time.

The two machines are in general use in our office.

Messrs. The Dowson & Mason Gas Plant Co. Ltd., Levens-hulme, Manchester, write :—

With regard to this twelve-column machine which we purchased from you two months

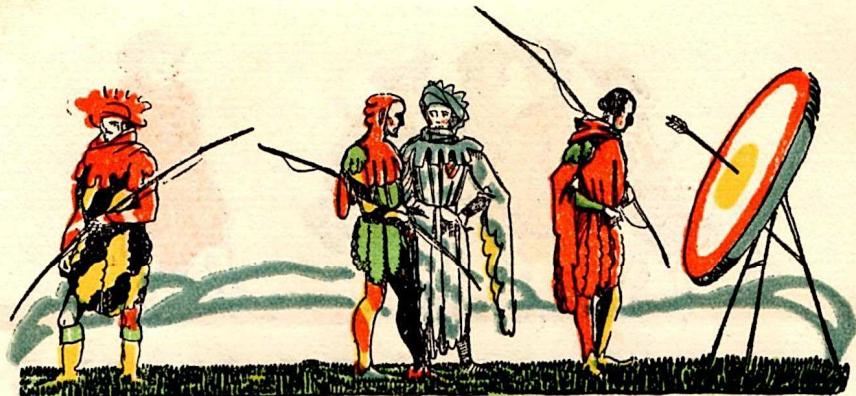
ago, and which is used mainly in our estimating department for the calculating of weights and prices, we have pleasure in stating that the machine has proved entirely satisfactory to us in every respect. It is capable of doing the whole of the work which we require to be done in our estimating department, and also the work is being done by a young lady, whereas previously it took two full draughtsmen to do this work. Also we have found that the results which we get for our tenders are more accurate with the machine than when done mentally or by the aid of slide-rules.

We must also thank you for the assistance which your service department has given to us in this matter.



## THE UNDERLYING PRINCIPLES OF COMPTOMETER CONSTRUCTION

**M**R. DORR E. FELT invented the Comptometer. He is the head of Felt & Tarrant Manufacturing Company of Chicago, where it is made. The first model was offered for sale in 1887, and since then Comptometers have been largely used all over the world. Over six thousand machines are now in use in the United Kingdom. The New Comptometer is the result of constant improvements. Mr. Felt's aim throughout has been to make a machine which should be mechanically accurate when employed upon every kind of calculation: addition, subtraction, multiplication and division, in money, weights, and measures. Further, that it should not only be mechanically accurate, but practically accurate in the hands of average operators, while being durable, speedy, easy of operation, and portable. The price was to be incidental, since he knew that any reasonable price would be a matter of small importance when compared with the resulting economies and efficiency. But owing to large manufacturing resources and good organization, the price is far lower than might be expected—so low, indeed, that it is repaid out of the resulting economies in the course of a few months.



# ACCURACY

*Accuracy is the first necessity in figure work*

THE Comptometer is absolutely accurate ; it cannot err. The machine is key-driven, the mechanism being operated by the depression of keys. When you depress the keys you can get only one answer, namely the correct one.

But the operator can err, and it is towards the elimination of operators' errors that recent Comptometer inventions have largely been devoted. Here are some extraordinary results.

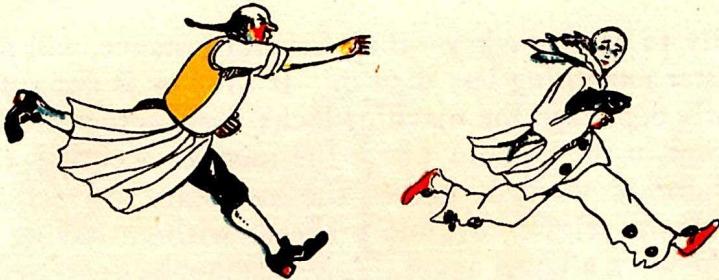
*The wrong keys of a machine may be struck just as figures may be copied incorrectly when a calculation has to be made mentally. The operator is far less likely to depress the wrong keys than to copy figures wrongly, because less effort of memory is required ; but as a safeguard the adjacent keys on the machine are differently shaped—some are flat, some concave. It is found by experience that the errors which take place by the depression of wrong keys are negligible ; should any occur, they will be disclosed by the check which is advocated later. There is no room for inaccuracy through this cause.*

*The keys may not be sufficiently depressed. No error from such faulty manipulation can possibly occur on the Comptometer.*

Partly to depress a key—the 9 key, for instance, will not register something less than 9. If the key is not sufficiently depressed the machine locks itself automatically (except in the column where the mistake occurs); the operator is warned, makes the necessary correction, strikes the release key, and proceeds without having to do the work all over again. A key cannot be depressed a second time before being allowed to return to its normal position, consequently the operator is protected from errors that might arise from this source.

*The operator may fail to clear the register* containing the answer to previous calculations before starting a new calculation. Protection against this is one of the greatest advances made. On each new calculation the operator receives no less than three 'all-clear' signals telling her that it is safe to proceed. The first appeals to the eye—only the tops of the ciphers appear in the register (they assume the normal position after the first key-stroke); the second appeals to the touch, since a slight added resistance occurs; while the third appeals to the ear—a warning bell is rung. And so no operator will go forward with a new calculation unless the register is clear.

In spite of these safety precautions it must not be thought that we recommend that calculations should not be checked. *Every* calculation should be checked, just as it is necessary to check every calculation performed by all other processes. *With this precaution it is practically impossible, when employing the Comptometer on your figure work, to obtain incorrect answers to any kind of addition, subtraction, multiplication, or division sum.* Experience based on thousands of tests proves the accuracy of the Comptometer, and the somewhat startling inaccuracy of calculations by mental processes.



# S P E E D

*The Comptometer offers the fastest known method of adding, subtracting, multiplying, and dividing. It is a universal machine, and performs all these operations in whole numbers, fractions, money, weights, measures, etc.*

**T**HERE is no calculation which the Comptometer cannot do. It is well within the mark to say that the machine is three times as fast as mental processes. An operator with a Comptometer would do a set of calculations in one-third the time that an expert clerk would require. But an important point is that, whereas the expert clerk becomes fatigued during the day, the Comptometer with a girl operator will work hour after hour without loss of speed.

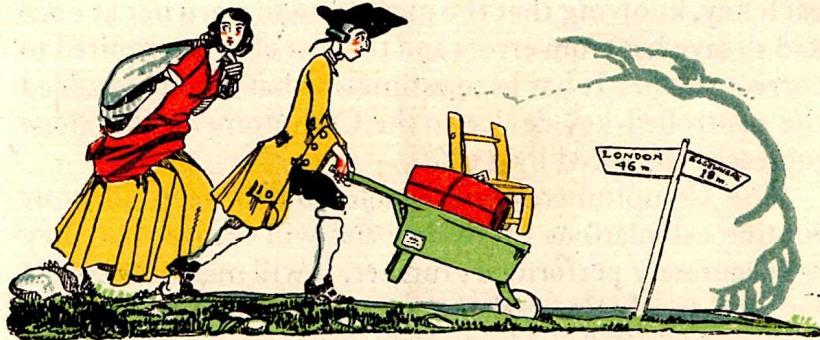
As already explained, the machine is operated merely by the depression of the keys. The mechanism is so devised that the key touch is very light, and however quickly the keys are depressed they cannot overthrow or register anything but the correct result. Much time is lost in all calculations, however, owing to the liability to err, and the controls already mentioned which protect the operator against error increase the speed of the machine enormously. The operator can work as fast as she likes without stopping to consider whether she is properly depressing

each key, knowing that the machine will warn her at once and so save her from errors and the loss of time required to correct them. It has been estimated that when we added the controlled-key device to the Comptometer this alone increased the speed by 15%.

The Comptometer will enable you to keep all your routine calculations up to date and will ensure that they are accurately performed; further, it will make it possible for you to obtain statistics promptly when they are of maximum value. Many important statistics are only made practicable by mechanical calculation.

**EXAMPLES WORKED ON THE COMPTOMETER  
AND TIMES TAKEN**

		Results.	Time Secs.
An addition of 30 items (L s. d.) having three or four digits in pounds column (no space to set out)	L 128,204	3 8	32
18 cwts., 1 qr., 4 lbs. @ 15s. $7\frac{1}{2}$ d. per cwt.	..	L 14 5	8 $\frac{3}{4}$ 4 $\frac{1}{2}$
14 lbs., 6 ozs. @ 1s. $4\frac{1}{2}$ d. per lb. + 5% - 10%	..	L 0 18	2 $\frac{1}{2}$ 8
1,320 yds. @ L 14 15s. od. per mile, less 5% and 10%	..	L 9 9 2	6
6,112 @ 17s. 8d. gross + 5%	..	L 39 7 4	11
396 kilos @ 2s. 3d. per lb...	..	L 98 4 5	4 $\frac{2}{3}$
476 sheets @ 3·687d. per sheet; less 5%, 10%, 10%, 2 $\frac{1}{2}$ %	..	L 5 9 8 $\frac{3}{4}$	10
The weight of 568 sheets of metal is 5 tons, 4 cwts., 2 qrs., 18 lbs. What is the weight per sheet, in lbs.	..	20·637	lbs. 8
15 standards, 2 qrs., 7 $\frac{1}{2}$ deals @ L 10 2s. 6d. per standard, less 25%	..	L 118 3 6 $\frac{1}{2}$	5 $\frac{1}{2}$
Steel plates. 5ft. 4 $\frac{1}{2}$ in. x 8ft. 6 $\frac{3}{4}$ in. @ 14·89 lbs. per sq. ft. @ 7 $\frac{9}{16}$ d. per lb...	..	L 21 11 10 $\frac{1}{2}$	18
How much % is L 368 17s. 6d. of L 987 15s. od.?	..	37·34%	5 $\frac{2}{5}$
Weaving Price. 88% of 16·86 + 5% + 3 $\frac{1}{2}$ % - 3·6% + 10% + 12 $\frac{1}{2}$ - 2% ..	..	18·85	22
Length Note. 17/60 $\frac{1}{2}$ , 6/6 $\frac{1}{2}$ , 62 $\frac{1}{2}$ , 13/63, 21/64 $\frac{1}{2}$ = 58 pcs. 3,630 $\frac{1}{2}$ yds. @ 3 $\frac{1}{2}$ d. per yd.	..	L 54 16 8 $\frac{1}{4}$	10
Exchange. L 1,680 2s. 6d. @ \$4·86 $\frac{1}{2}$	..	\$8173·81	3 $\frac{2}{5}$
Wages. 51 $\frac{1}{2}$ hours @ 9 $\frac{1}{2}$ d. per hour	..	L 1 19 8 $\frac{1}{2}$	2
Drapery. 14 gross 7 doz. and 4 @ 13/6 per gross.	..	L 9 17 3	2
Wool. 24 packs 3 tod 8 lbs. @ 11 $\frac{3}{4}$ d. per lb.	..	L 277 12 10 $\frac{3}{4}$	5
Shipping. 443 ft. 4 in. @ 36/3 per 40 cub. ft. + 10%	..	L 22 1 11	4
Interest. L 644 11s. 2d. @ 3 $\frac{3}{4}$ % p.a. for 277 days	..	L 18 6 10	9
Insurance. L 3,254 @ L 1 17s. 6d. %, less 5%, less 10%	..	L 52 3 4	4



# ECONOMY

WITH a Comptometer, a girl operator will do as much calculating work as three expert men in the same time. The wages of the operator, together with the cost of the machine, allowing for depreciation, interest on capital, and all incidental expenses, will be less than the wages of one of the clerks. Therefore you save more than the salaries of two clerks, plus the cost of supervision, plus the cost of providing them with office room, furniture, etc. The figures were worked out in detail in our pamphlet, 'Would a Comptometer save me £400 a year?' and you will find that the direct economy is not less than £400 per annum for every machine that can be kept busy.

But apart from this, other great savings are made possible. We are often told by our customers, for instance, how the Comptometer has enabled them to discover errors and consequently has saved them considerable sums of money, while the advantage gained by having all figure work kept up to date and all statistics presented promptly is impossible to estimate. Actually it is priceless.

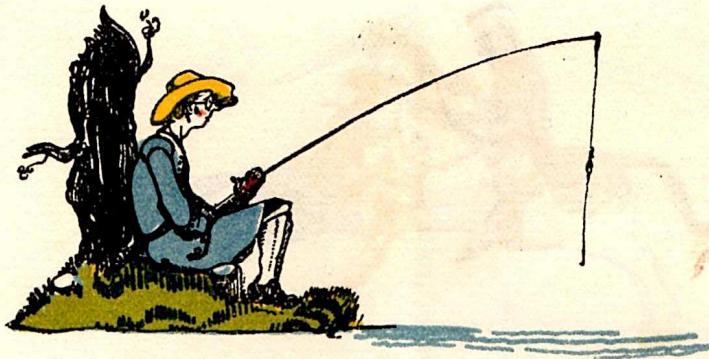
Certainly it is obsolete and wasteful to do by mental processes what a machine will do at one-third the cost in one-third the time, and with absolute accuracy.



## DURABILITY

THE machine is made of the best materials in the best possible way. It is designed so as to reduce wear to a minimum. Lubrication is an easy matter, and is performed without removing the case. In this connexion it is interesting to note that H.M. Stationery Office recently called for a report as to the cost of the repairs of the large number of machines in use in Government offices, and the result was to show that the repair cost worked out at twenty-one pence per machine per annum. But perhaps the best evidence of all is that whereas between 6,000 and 7,000 Comptometers are in use in the United Kingdom, six mechanics are sufficient to do all the repair work necessitated through all causes, including accident.

*AFTER exhaustive investigation and prolonged tests His Majesty's Government have ordered 200 New Model Comptometers. This is believed to be the largest order for calculating machines ever placed by a single user.*



## S I M P L I C I T Y

**T**HE COMPTOMETER is an exceedingly simple machine. After a few hours an intelligent clerk will calculate far more quickly with the machine than without, but practice is necessary in order to realize the speed of which the machine is capable. In order to give the greatest possible service to our customers and to enable them to get the best results from the machine, we maintain schools in connection with all our branches, so that we may supply trained operators or train any clerks in the service of our customers. A great deal of the tuition consists of a course of commercial arithmetic, because we find that this is necessary in the case of the average clerk. It has sometimes been suggested that this course of training is necessitated by a complicated machine. This is not the case, as can be seen at once by any one inspecting the Comptometer. We know that far better results are obtained by our customers through having operators who have had an adequate training, and so we provide these schools for their benefit. No charge is made for finding skilled operators or for training clerks for our customers.

The Comptometer does not necessitate any change of system: it will do all your calculating work just as it is, but the ability to calculate without the amount of

writing which is necessitated by mental calculations often enables our clients to adjust their systems with further important savings.

The Comptometer will bring profit and pleasure from the first moment of its introduction.



## T O S U M U P

*Put briefly and bluntly to save time*

**I**F you believe in maximum production you will, in order to be consistent, employ the new Comptometer. Every machine you keep employed will directly save you £400 per annum, and also keep your work up to date, ensure accuracy, increase your efficiency, and obtain statistics promptly, some of which may not be possible otherwise, but will be invaluable for the guidance of your affairs.

Over 6,000 machines are in use in this country already; there is room for 100,000. This number of machines, each saving £400 a year, will reduce the cost to the country of carrying out administrative work by £40,000,000 per annum, apart from the benefits obtainable from increased efficiency and improved knowledge.

The Comptometer cannot be ignored; it is being used more and more every day by firms in every trade in the

country as well as by many departments of public service. Inexorably it is, by the great advantages it offers to business men, raising the general standard of efficiency.

It is wasteful to use old methods when a machine will do your work in one-third the time at one-third the cost and with absolute accuracy. Few firms know how much time is occupied in their offices, and indeed in other departments, by calculations.

You cannot get the best results from the energy and thought you put into your business unless you use the Comptometer.

There are other adding and calculating machines ; we will give you the names of them all if you wish. Make what investigations you think proper, but employ mechanical calculation. There is no machine that will do the general work of addition, subtraction, multiplication, and division—either one or all of these operations—so quickly as the Comptometer, nor give the same return in service in proportion to the cost of the machine, and we will demonstrate this by any test that may be set.

When considering the introduction of a Comptometer, remember that you are putting a tool into the hands of an operator which will enable him or her to do the work of three expert clerks. Naturally you want the best tool, because it will influence the work of that operator for as long as it lasts, and the cost of the tool is only a small percentage of the wages of an operator. Looked at in this way you will see how important it is to obtain the most efficient calculating machine.

Sooner or later you will use Comptometers—the sooner the better for you. A list of Comptometer users shows that it is the successful firms who are using them to-day.

We are glad to give the fullest information without any liability on your part, and we will leave you free to form your judgment based on knowledge.



# A C T I O N

*Put the wheels in motion*

THIS brochure presents you with information of value. It is our business, as Sole Concessionaires in the United Kingdom of the Comptometer, to place facts before business men, and to give them every opportunity to test the value of the Comptometer before purchasing, so they may know that the great merits we have described are actually true. Afterwards, by giving advice as to the best means of carrying out any particular calculating work, by training operators, and so forth, free of expense, we try to render continuous service.

We invite you, if you think the advantages we have described are worth your consideration, to take some action in order to bring these advantages to yourself. If you will write us a line appointing a time when you would like to see our representative, we will send some one who will tell you as briefly as you wish what the Comptometer will do for you, and who will then leave you to form your own judgment.

We suggest that you write without delay. Placed on one side, these notes may be forgotten; put in the waste-paper basket you will deny yourself great help. A line now will ensure that you have definite information at a time appointed by yourself, so that you may know how the machine which is helping so many thousands of other business men can also help you.

### *More Testimonials from Comptometer Users.*

Messrs. Charles Johnson & Co. Ltd., Merchants, Bradford, write :—

We have used the Comptometer for two years and have found it quite infallible in its results; in fact, our office staff says :—‘We used to check the machine, now we check ourselves by the machine.’

The Comptometer saves us much time and labour in totalling lengths of pieces, extending invoices, conversions of currencies, additions of ledgers, etc., etc., and it is working as well now as when we bought it.

Messrs. James Templeton & Sons Ltd., Worsted Spinners, Ayr, write :—

The machine is undoubtedly a time-saver in many ways, particularly with regard to wages and invoice work and stock sheets.

The Mather Lane Spinning Co. Ltd., Leigh, Lancs., write :—

The Comptometer which we have had for the past six years has given us entire satisfaction.

It saves much mental work in invoices, wages, costings, etc., and can always be relied upon for its accuracy.

*There is only one Comptometer. It is made by Felt & Tarrant Manufacturing Company, and sold in the United Kingdom by the Sole Concessionaires :*

**HERBERT E. ROBBINS LTD**  
Imperial House, 15 & 17 Kingsway, W.C.2

Telephone: Regent 4847-8.

Telegrams: Feltarrax Estrand London.

Directors: H. E. Robbins, C. J. Robbins, Capt. H. B. Whitney. All U.S.A.

#### *Branches:*

BELFAST: Prudential Chambers, 1 Wellington Place  
BIRMINGHAM: 117 Colmore Row  
BRADFORD: Halifax Commercial Bank Chambers  
BRISTOL: Canada House, Baldwin Street  
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DUBLIN: College Park Chambers, 11 Nassau St.  
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LIVERPOOL: 36 Chapel Chambers North, 28 Chapel Street  
MANCHESTER: 106 Deansgate  
NEWCASTLE-ON-TYNE: Emerson Chambers, Blackett Street  
SHEFFIELD: Orchard Chambers, 27 Church St.  
SWANSEA: 9 St. Mary Street

*A List of Users in your District to  
whom you may refer will  
gladly be given*

# THE PRINCIPLES OF HERBERT E. ROBBINS LTD

**W**E believe that the Comptometer brings great advantages to national industry, and that in promoting its use we are performing a service.

This service is best rendered by stating facts without exaggeration.

It is sufficient that the facts should be intelligently given. Sales will come in good time if the facts are clearly stated, because the advantages to be gained are so real.

Undue persuasion is to be avoided. Inquirers are not to be pestered into giving orders ; the decision is to be left to their judgment.

No attempt is to be made to sell a machine unless it will be of service to the purchaser.

When a Comptometer is sold, operators will be trained and information given as to the best methods of performing all kinds of calculations, so that each Comptometer is used to the greatest advantage.

A guarantee is given with each machine.

The prices of machines of various sizes are inflexible to all customers. No discounts or preferential terms can be allowed under any circumstances.

***Comptometer***



*C. Lovat Fraser drew the pictures,  
Curwen did the printing: both are  
entitled to credit. We wrote facts,  
and the good news thus presented is  
worth your attention. H.E.R. Ltd.*